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ABSTRACT

Five areas of research into innovation adoption in educational institutions are described in this report. They are a) identification and description of phases involved in innovation adoption, b) development of assessment methods for predicting an institution's potential for successful adoption of change, c) development of measurement procedures for assessing and diagnosing both individuals and institutions with regard to implementation of innovation, d) transfer of research findings to practicing agents of innovation adoption, and e) using the work of practicing innovation adoption agents to form hypotheses for further research into the realities of change in educational institutions. In the context of these five research areas, the Concerns-Based Adoption Model (CBAM) is presented. CBAM treats innovation adoption as a developmental process organized around the concepts of collaboration linkage, individual use of adopted innovation, and individuals' concerns about their use of the adopted innovation. (HMD)

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The Center's major program, the Personalized Teacher Education Program, has its roots in teacher personality research dating back to the mid-Fifties. This early research, which demonstrated how teacher's personalities and classroom behavior correlate with success in their teaching careers, has led to the development of a large group of products which help education facilities become aware of student teachers' individual needs. The program also has produced products for student teachers' use, to help them build on their strengths.

The completely modularized program is currently in field test and/or use at more than a dozen important teacher education institutions nationally.

In addition to the PTEP, the Center also supports other projects in educational evaluation, development of strategies for implementing institutional change, and in consultation techniques for helping teachers plan individualized programs for children.

The Center's work is supported by the National Institute for Education and by the University of Texas System, as well as through contract research and development programs for public agencies.

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IMPLEMENTATION OF CBTE--

VIEWED AS A DEVELOPMENTAL PROCESS

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Research and Development Center for Teacher Education

The University of Texas at Austin

IMPLEMENTATION OF CBTE -- VIEWED AS A DEVELOPMENTAL PROCESS[1,2]

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Innovation adoption in educational institutions is an activity that is often approached with little in depth calculation and anticipation of potential consequences. It is all too common to observe an air of casualness that is alarming to those scarred from extended exposure to the trench warfare of change. Often it seems that decision makers decide to adopt one of the recently developed complex innovation bundles (e.g., Individually Guided Education; Competency-Based Teacher Education) with the casualness of changing textbook series, which is a change that should not always be taken lightly. Adoption of innovations in educational institutions is not a simple phenomena or singular event. Adoption of educational innovations is a process that generates diverse and, in many cases, all together unexpected outcomes. Innovation adoption can consume much of the energy of the people involved and can cost a great deal in terms of resources, dollars, personnel productivity and not least of all TIME.

In this paper an attempt will be made to share with CBTE program managers the experiences, theory and research findings of the CBAM Project staff of the Research and Development Center for Teacher Education. This staff has been actively involved in studying the CBTE program development and adoption processes in teacher training institutions around the nation. Out of this work and experience a model of innovation adoption in educational institutions has been developed. Based on this model, measurement procedures and principles for practicing adoption agents are being developed and researched. Each of these areas of work will be briefly explored in this paper. Implications for planned change will also be presented as food for thought for CBTE program managers.

CBAM Project Overview

Researching, planning for and managing innovation adoption in educational institutions are the foci of the work of the Concerns-Based Adoption Model Project of the Research and Development Center for Teacher Education of the University of Texas at Austin. In this work, innovation adoption is viewed as a complex process rather than being a singular event. Phases to this process have been identified and described and are being studied. We are hypothesizing that each and all individuals within an educational institution progress through

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[1]Paper presented at the National Conference on Competency Assessment, Research, and Evaluation held at the University of Houston, March 13-15, 1974.

[2]The research described herein was conducted under contract with the National Institute of Education. The opinions expressed are those of the author and do not necessarily reflect the position or policy of the National Institute of Education and no endorsement by the National Institute of Education should be inferred.

a series of growth steps in their developing capability to demonstrate high quality use of an innovation. We are further hypothesizing that adoption agents who assess these developmental dimensions in their clients are better able to select and make more personalized interventions, thereby accelerating advancement to high quality and extensive use of the innovation within the institution.

As much as is possible, we are attempting to conduct empirically-based studies and at the same time develop procedures and techniques that have immediate utility for practicing adoption agents and program managers. Although much of the early research and development was done with institutions developing competency-based and personalized teacher education programs, the findings seem to be generalizable to other educational institutions and other educational innovations. The research thrusts are targeted toward several fronts:

1. Identification and description of the phases and steps entailed in innovation adoption in educational institutions.
2. Development of assessment methods for predicting user system potential for successful adoption of innovations.
3. Development of measurement procedures for assessing and diagnosing the developmental stages and levels of individuals and the composite user system.
4. Transfer to and immediate application of the research techniques and findings to the activities of practicing adoption agents.
5. Using the work and experiences of practicing adoption agents as a source of hypotheses and as a heuristic for learning more about the real world of innovation adoption in educational institutions.

The remainder of this paper is devoted to brief descriptions of each of these research and development activities.

Phases in the Adoption Process

Hall (1973) in viewing the history of educational institutions over an extended period of time has identified what appears to be an ebb and flow to the intensity of innovative activity. Educational institutions seem to oscillate between relatively extended periods of quiet and calm and shorter periods of great flurry and activity. The extended periods of quiet have been labeled Periods of Equilibrium and the shorter highly active periods have been named Periods of Disequilibrium. This does not mean to say that during periods of disequilibrium everything is out of control, but rather that the user system as a totality and the individuals within it are experiencing unusual events, problems, imbalance and increased dynamism. However, to many of the institution's members a period of disequilibrium may seem like a time when things are out of control. In other words, the day-to-day hum of routine is disrupted with the cacophony of builders with jack hammers attempting to build a new order to things. In most cases this building means tearing down some of the old detours, changes in work patterns and new challenges. These changes will be perceived differently by each person.

If the innovation adoption attempt is completely successful, institutions are hypothesized to move through six phases of Disequilibrium. These phases are: (1) Injection, the idea of the innovation is introduced to members of the institution; (2) Examination, the innovation receives study, talk, visits,

thought, planning, reading about and committee formation; (3) Preparation, the time following commitment to try out the innovation when materials and resources are organized and pre-use training occurs; (4) Sampling, first try-out of the innovation on an experimental basis by part or the total user system; (5) Spread, spread of trial use of the innovation to all potential users within the user system; and (6) Institutionalization, the innovation is used as a regular way by all or nearly all potential users.

As is represented in Figure I, institutions appear to oscillate between periods of equilibrium and periods of disequilibrium. Within any disequilibrium period the number of phases and the duration of each phase is dependent on a number of variables, such as the complexity of the innovation, existing capability of the users to use similar innovations, the users level of use of previously adopted innovations, the leadership style of the adoption agent(s) and a host of other variables. Abortion of attempted innovation at one or another phase of adoption is an all too common occurrence.

Predicting Potential for Successful Adoption

Manning (1973) has developed an experimental instrument entitled "The 'Trouble Shooting' Checklist" (TSC) for assessing a teacher training institution's potential for successful adoption of two innovations, instructional modules and a counseling technique, Personal Assessment Feedback. The TSC can be completed by an adoption agent during an initial visit to an institution that is considering adoption of an innovation.

Based on an extensive review of the research literature and intensive interviews with successful change agents and analysis of their responses to early forms of the TSC, Manning has developed a set of items that the adoption agent rates for each of the following categories: (1) organizational structure; (2) personality and leadership styles of organization members; (3) communications; (4) level of usage; and (5) characteristics of students within the institutions. A series of subfactor and factor scores result that make possible the classification of an educational institution into one of three categories. The institution is classified as being either (1) an Ideal Institution for Successful Adoption of Innovations, (2) a Marginally Acceptable Institution for Successful Adoption of Innovations, or (3) being an Unacceptable Institution for Successful Adoption of Innovations.

Once this classification is made, by use of the TSC manual, the program manager or adoption agent is provided with information about a likely sequence of events about adoption of the innovation in that category of institution. The TSC manual also includes information for the adoption agent about the skills that are most likely to be effective given the institution's predicted potential for successful innovation adoption. These guidelines for adoption agent skills are classified under five headings: (1) Leadership Style, (2) General Cognitive Skills, (3) General Communication and Interpersonal Skills, (4) Relationships that the Adoption Agent has with the Faculty, and (5) Relationships that the Adoption Agent has with the Administration. Wallace (1973) has also identified a set of principles for effective change agents and elaborated on these. This complementary set of guidelines needs to be considered in planning for innovation adoption.

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FIGURE 1: PHASES OF INNOVATION ADOPTION

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Figure 2 is a sample of the TSC Form A for module adopting institutions. The subcategory is that of Organization Structure and the adoption agent is asked to select the eight items out of the list that most directly apply to the user system being considered. This procedure is then repeated for the other TSC categories. The items are then assigned a weight and the weights are summed to yield a subfactor score. In the case of Category A the items are weighted as follows:

1) 0	5) 0	9) 2	13) 2	17) 1	21) 1
2) 1	6) 1	10) 2	14) 2	18) 0	22) 2
3) 1	7) 1	11) 1	15) 2	19) 0	23) 0
4) 2	8) 0	12) 0	16) 2	20) 1	24) 0

The subscale score range has been tentatively assigned as follows:

Score Ranges: 0-4 = unacceptable
5-10 = marginally acceptable
11-16 = ideal

Research efforts are presently underway to validate these score ranges and to refine the TSC. Interpretation of this data needs to be carefully weighted by the CBTE program manager, however, the factors and factor scores should provide the CBTE program manager with some added information, although tentative, and insight into what the real potential capabilities and inherent risks are in facilitating a given institution's adoption of CBTE.

Concerns-Based Adoption Model (CBAM)

Hall, Wallace and Dossett (1973) have developed a model to represent the complex process of innovation adoption in educational institutions. The model, the Concerns-Based Adoption Model (CBAM), is an attempt to represent the complex innovation adoption process by clustering the many possible variables into a distilled set of dimensions and interrelationships that can be held onto for study. A model that is as complex as the process it is supposed to model would not be utilitarian for either the researcher or the practitioner. The CBAM is based on viewing innovation adoption as a developmental process. The CBAM organizes the innovation adoption process around the concepts of collaborative linkage, individuals use of the innovation, individuals concerns about their use of the innovation. Information about use and concern provide the adoption agent with the basis for selecting personalized intervention strategies. The basic dimensions of the CBAM are explored in the next few pages.

Description of CBAM

Collaborative Linkage

The CBAM begins with viewing the adopting institution as a User System composed of individuals, each of whom has his own sets of concerns, problems, skills, agendas and needs. In combination these individuals represent the institution and its functioning. When this user system becomes involved in adopting an innovation, a Resource System that is expert in the use of the

Figure 2: TSC-A
(for module adopting institutions)

SECTION I

The following TSC categories and items focus on the institution's organizational structure and include characteristics of the faculty and administration as they relate to organizational structure.

CHECK ONLY THE 8 ITEMS THAT MOST APPLY.

Category A: Organization Structure

_____ 1. The internal change agent working at this institution appears to be incompetent, and his position lacks authority and responsibility.

_____ 2. There is little state-level support or leadership.

_____ 3. The group of potential adopters seems to have some communication problems with the larger faculty group.

_____ 4. There is a small group of adopters which has credibility with a larger faculty group that gives feedback.

_____ 5. The potential adopters that do exist have serious communication problems with the larger faculty group.

_____ 6. The internal change agent working at this institution, although quite capable, is not in a position of authority.

_____ 7. It is not yet clear how large the group of adopters will be.

_____ 8. The internal political structure is such that the tenured faculty exerts pressure against innovation.

_____ 9. There is an "intellectual" authority figure in addition to "line-staff" authority.

_____ 10. The organization has a stable structure with fairly well-defined roles and established (functional) channels of communication.

_____ 11. There is no "intellectual" authority figure--only "line-staff" authority.

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____ 12. The source of power lies outside of the institution.

____ 13. The internal change agent working at this institution is in a position of authority and responsibility.

____ 14. There is a small group of highly involved adopters who work in close proximity.

____ 15. There is a small group of adopters appearing to move faster and more effectively than would a large group of adopters.

____ 16. There is a small group of adopters who clearly demonstrate an ability to effectively communicate with a larger faculty group in order to gain their support.

____ 17. There are a number of potential adopters, but none who are yet fully committed.

____ 18. Potential adopters are scattered across campus and do not have daily contact.

____ 19. There is a closed organizational structure. (All activities fit into a predetermined structure.)

____ 20. There is a strict, hierarchical organization.

____ 21. The group of adopters has not yet established credibility with a larger faculty group but clearly shows potential to do so.

____ 22. The organization structure includes the following hierarchy of positions: president; provost; dean; and department chairman.

____ 23. There are no committed adopters or potential adopters identifiable.

____ 24. Those individuals who have expressed interest in the innovation have low credibility with the rest of the faculty and appear to be locked into their positions.

CATEGORY I-A SCALE SCORE

innovation normally is available to help it develop its capability. Sometimes the resource system is an individual; sometimes it is located inside the user system; more likely, however, it is a formal organization outside the user system that forms a linkage with the user system.

Whatever form the resource system takes, for best results with all complex innovations the linkage should be a collaborative one based on mutual openness in communication and a sharing of resources, investments, outcomes and risks (see Figure 3). A one-way association is not likely to survive because the receivers will not sustain a commitment to a joint effort. The CBAM requires that investments be made by both user and resource systems, and that both be able to gain from the collaboration. In most instances a collaborative linkage is established to help the user system develop a high-quality use of the innovation as quickly and as easily as possible. This means that with time the individuals within the user system must become as knowledgeable about the innovation as are the members of the resource system. In addition, each individual in his role, whether it be as an administrator, faculty member or student, must develop the skills and finesse in using the innovation that will optimize the effects of its use.

One premise underlying the CBAM is that adoption agents (specialists in the use of the innovation and effective catalysts for facilitating change) work with people in the user system both individually and in groups. As a result, the CBAM at one level focuses on assessing the temporal state of the individuals within the user system. This assessment then allows the adoption agent to focus his interventions so that they respond to the perceived needs of the individual users and also relate to their levels of use of the innovation at that time. The constructs of the CBAM that make this possible are the two sets of scales: (1) Levels of Use of the Innovation and (2) Stages of Concern about the Innovation. In addition, a third and more provocative set of hypotheses has to do with the relationship of stages of concern to levels of use.

Levels of Use of the Innovation

We contend that there are observable differences in how various individuals approach and use an innovation. Specifically, it is hypothesized that there are identifiable, definable and measurable levels of use of an innovation that range from lack of knowing that the innovation even exists to an active, sophisticated and highly effective use of it. It is further hypothesized that growth in quality of use of the innovation by most individuals is a developmental process. Normally, individuals do not just use an innovation for the first time, or even the second time, and use it as efficiently and as effectively as do those who have been involved with the innovation through four or five cycles of use. Advanced levels of use are not attained merely by use of the innovation through several cycles, however. Experience is essential but not sufficient to insure that a given individual will develop high quality use of an innovation.

An oversimplified but helpful illustration of the level-of-use dimension is the innovation-adoption process a college instructor goes through when he adopts a new textbook for a course he has taught many times. At first he will carry the new book around for reference much more than he did the old text. In preparing class presentations and examinations he will refer to it much more. His assignments are more likely to be literal chapter assignments, and he

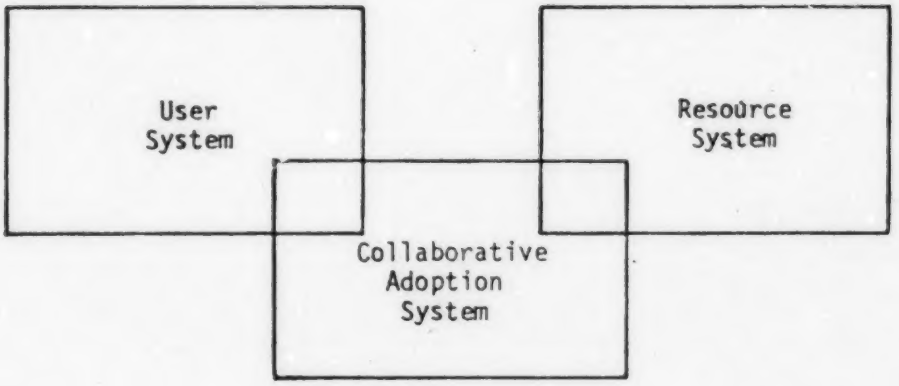

Figure 3. Basic Representation of the Systems of the Concerns-Based Adoption Model

probably will follow a straight-forward progression through the text. His use of the innovation is apt to be "mechanical," uneven in flow and closely related to the flow of the text. As this instructor prepares to teach the course a second time using the new text, however, he is likely to select a different arrangement of assignments. This time, he may assign Chapter 4 first and, perhaps, delete Chapter 7 while substituting another reference he thinks will do a better job. In making these changes, he has progressed beyond a mechanical use of the innovation. He has gained the experience and know-how to be more adaptive in his approach, and he more smoothly integrates the use of the text into the rest of his instructional activities.

For research, operational definitions and scale points for the levels-of-use dimension of the CBAM have been developed. For purposes of illustration here, Table 1 contains sample behaviors found at each level. Two subscales are hypothesized for the levels-of-use dimension. One described the knowledge level of the user. It hypothesizes that the cognitive level or amount of information and degree of understanding an individual user has about the innovation is a developmental progression. Assessment of this set of scale points might take the form of a pencil-paper achievement test. The other set of scale points for level of use of the innovation are the action scale points. In the CBAM we hypothesize that there are observable behavioral differences in how the innovation is actually used and that advancement to the higher levels of use of the innovation is a developmental process. Assessment of the action level of use requires direct observation of the users while they use the innovation.

Stages of Concern About the Innovation

A second dimension has to do with the individual user's needs, motivations, problems and requests as he is becoming expert in using the innovation. In a way that parallels Fuller's (1969) studies of concerns of teachers, individuals are hypothesized to have concerns that relate to their potential or actual use of an innovation. A set of scale points, Stages of Concern About the Innovation, has been defined for this dimension, and it is hypothesized that this dimension is also a developmental progression. That is, when individuals first approach using an innovation, their concerns will be different from those they will have after they have used it awhile. Still higher stages of concern will be expressed with subsequent cycles of using the innovation unless one or more developmental processes become blocked or dormant.

As with Fuller's theory of concerns of teachers, the CBAM hypothesizes that early concerns are much more self-oriented than are later concerns. Table 2 lists Stages of Concern About the Innovation ranging from unaware to renewal with typical expressions of concern.

Relationship Between SoC and LoU

It is hypothesized that concerns are related to use and that it is possible for change agents to infer a great deal about use of the innovation from listening to the user's concerns. This relationship is not always a simple one-to-one correspondence, however. Many of us, for example, have known golfers who "talked a good game" but whose actual play was rather far over par. The alternate imbalance in theory is also possible where the individual's concerns are very low level and he has serious doubts about his abilities when, in fact, he

Table I: Levels of Use and Typical Behaviors for Each Level of Use of the Innovation

Level of Use	Behavioral Indices of Level
Non Use	No action is being taken to learn about new ideas in the area of the innovation.
Orientation	The user is seeking out information about the innovation.
Initial Training	The user is preparing to use the innovation.
Mechanical	The user is using the innovation in an awkward, poorly coordinated manner.
Independent	The user is doing a good job with the innovation.
Integrated	The user is sharing with others what he is learning about students from using the innovation.
Renewing	The user is seeking out more effective alternatives to his established use of the innovation.

Table 2: Stages of Concern and Typical Expressions of Concern About the Innovation

Stage of Concern	Expressions of Concern
Unaware	I don't know anything about it (the innovation).
Awareness	I have heard about the innovation, but I don't know much about it.
Exploration	How much of my time would use of this innovation take?
Early Trial	I seem to be spending all my time in getting material ready for students.
Limited Impact	I can now see how this innovation relates to other things I am doing.
Maximum Benefit	I am concerned about relating the effects of this innovation with what other instructors are doing.
Renewal	I am trying a variation in my use of the innovation that looks like it is going to result in even greater effects.

has the potential of being outstanding. There are also instances of individuals who "perform over their heads."

An illustration of these relationships using an educational innovation could be schools adopting open-concept classrooms. Many communities now have school buildings that are open concept and have reputations for having exciting, innovative programs. When one visits some of these schools, however, he finds book cases, chalk boards, easels and seating are arranged in blocks that serve as traditional self-contained classrooms (low use). In another school where all of the walls are gone, the pupils are roving aimlessly. No territories have been established; there is excessive confusion; and the climate feels tense. This is a school that is probably early in its use of open-concept classrooms and where the teachers have high stages of concern about sharing their leadership and responsibility for curriculum and about remaining non-authoritarian. But, in spite of these high concerns, their level of use of open-concept classrooms is low. They are confused and uncertain as a result of perhaps attempting a too ambitious beginning.

With the CBAM it is hypothesized that there is probably a middle range of relationship between concerns and use where successful advancement or growth is possible, but if an individual's stage of concern and level of use move too far out of correspondence then adoption of the innovation is in jeopardy. Figure 4 is a graphic representation of this set of hypotheses with the area within the envelope representing the hypothesized safe-growth area.

Extensity

The ultimate criterion in any innovation-adoption effort is the extent and quality of use by each user of the innovation within the user system. The level-of-use dimension of the CBAM contains a set of operationally defined scale points that provides behavioral indicators of the quality of use of an innovation by each individual within the user system. Innovations are adopted by user systems composed of many individuals. It is important to have a record of each individual level of use. Also, a representation of the proportion of individuals within the user system that are using an innovation needs to be made. A descriptive statement that the average user in a school is at a mechanical level of use is not as useful as is a picture of the present level of use that each individual is demonstrating. An extensity profile can be constructed to accomplish this. All faculty, administrators and students can be observed and rated with respect to their levels of use of the innovation. When this information is plotted, the resultant graph represents the individual level of use and the extent of use of the innovation within the user system at the time the observations were made. By plotting extensity profiles at regular intervals, a visual record can be maintained of the extent and level of use of the innovation. When extensity profiles for different dates are compared, the rate of advancement of innovation use or its arrest can easily be seen. Figure 5 is an example of an extensity profile.

Putting It Together

The Concerns-Based Adoption Model in its entirety is represented in Figure 6. In operation, there is a collaborative linkage established between a user

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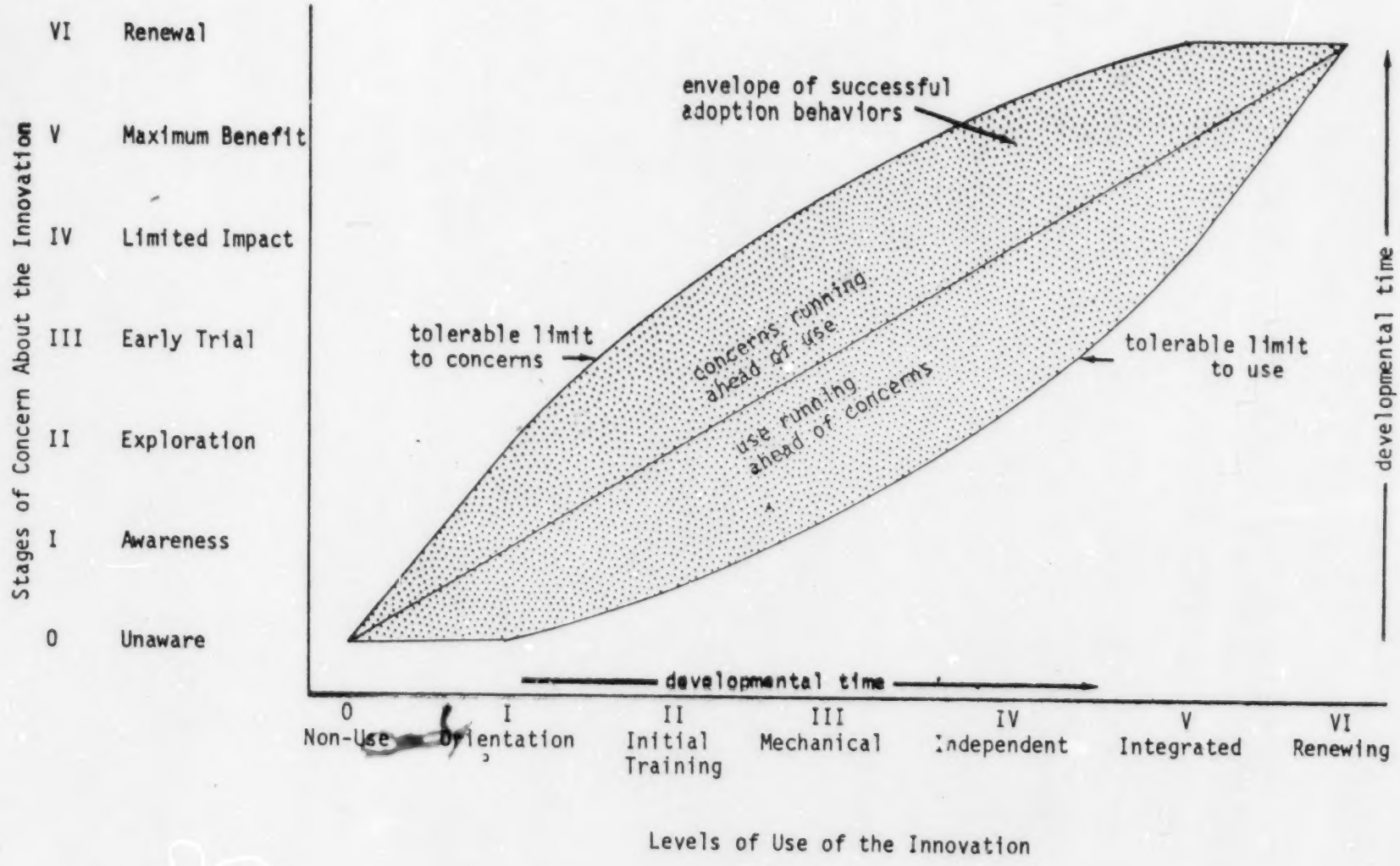

Figure 4. Relationship between stages of concern and levels of use with successful adoption

K represents the Knowledge scale of use and A represents the Action scale of use.

The unit of analysis is the individual instructor. Names are added to the right of each component as new potential users enter the user system.

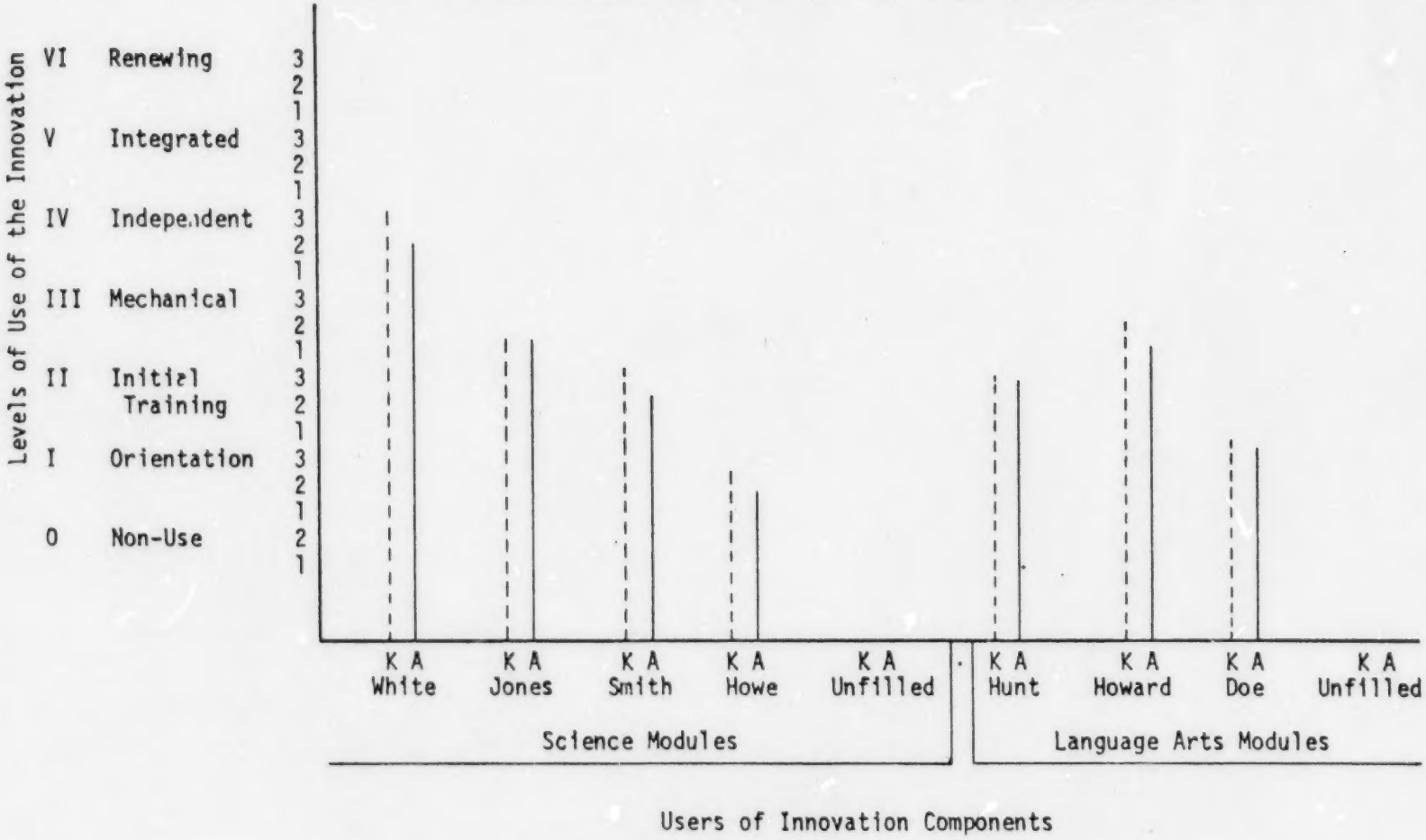

Figure 5. Extensity profile for university X after two years experience in using instructional modules

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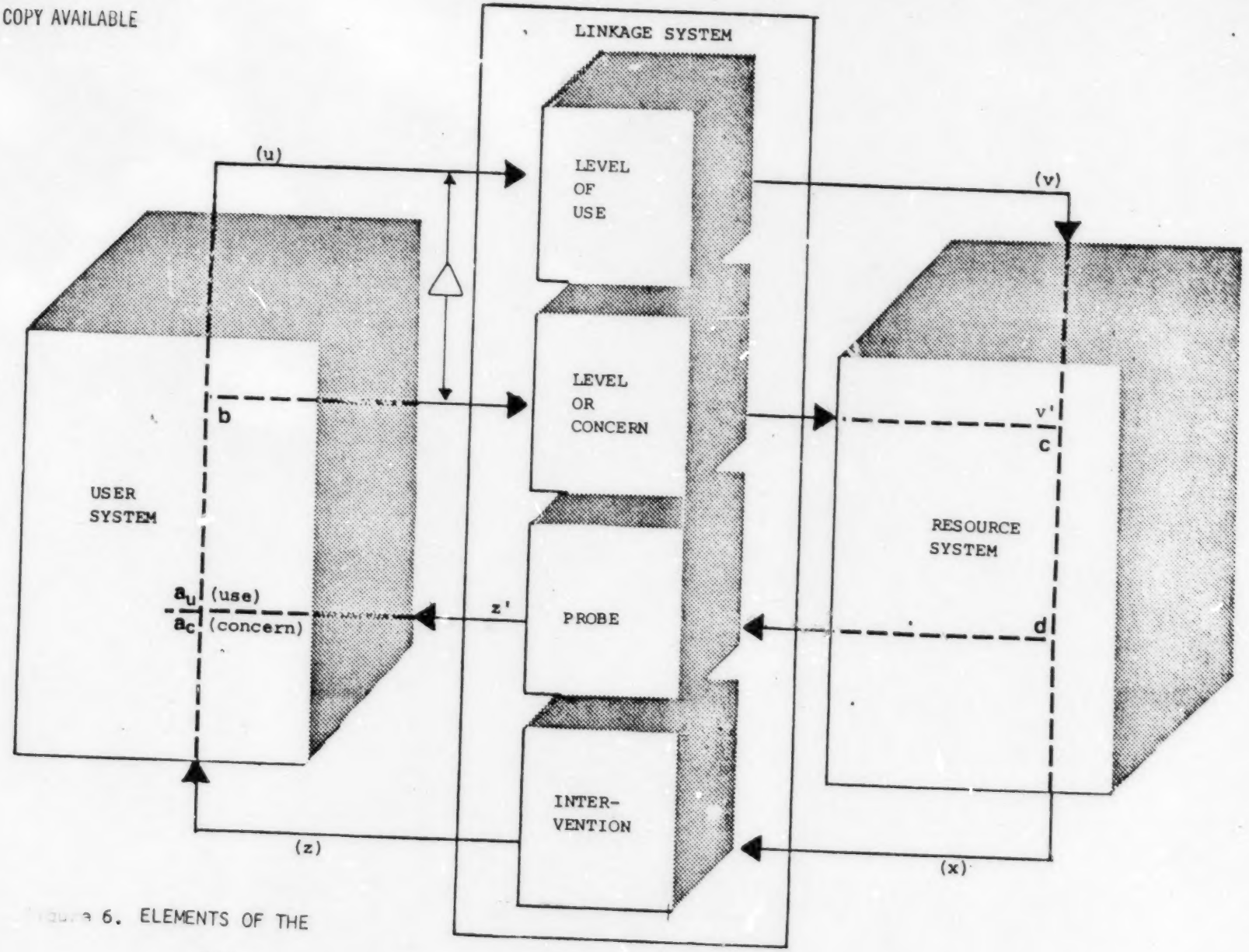

Figure 6. ELEMENTS OF THE CBAM

system that is adopting an innovation and a resource system that has expertise with the innovation and facilitating its adoption. In theory, linkage is accomplished via several communication channels that entail systematic probes of the user system and its personnel to assess each user's stage of concern and level of use about the innovation. Based on this assessment, adoption agents should be better able to select and employ personalized intervention strategies. The selected strategies are targeted toward advancing use of the innovation while, at the same time, resolving the user's concerns or arousing more advanced concerns. Interventions that are targeted in this way are most likely to appear as relevant to the user's concerns and, thereby, are most likely to effect advancement in the level of use of the innovation.

Adoption Strategies

The actual implementation of CBTE can be approached using one or a combination of several different adoption strategies. An adoption strategy is a general game plan or plan of action that is designed to move a user system from first awareness of an innovation to high level and extensive use of the innovation. The adoption strategy selected will greatly influence the rate of spread of use of the innovation, and each strategy has inherent characteristics that can lead to the occurrence of certain barriers to successful adoption.

Presently, at least eleven adoption strategies that have been employed extensively can be identified. These are:

1. The Boot Straps Approach. An individual within the user system or an entire user system decides to develop or use a new product. Learning how to use it and collecting the necessary resources for using the innovation are carried out by the user system with no outside support or assistance.

2. The Decree. An individual in a decision-making position within the user system announces that the innovation will begin to be used as of a particular time. In many cases, the decision maker is a person who believes in and practices rational decision-making. He assumes that everyone else will naturally see the obvious advantages to be gained by using the innovation just because it makes sense. In many cases, few resources and support systems are allocated to the adoption process; it is assumed to be a fait accompli with no need for any dragged-out development.

3. The God-Bless-You Approach. An innovation representative or a consultant works with the user system for a few hours or as long as one or two days when the innovation is first adopted. He then leaves, with the user system left on its own to work out any problems encountered and with the expectation that the innovation will be used effectively.

4. Intensive Pretraining. Individuals are introduced to the innovation through a summer workshop, inservice training session, retreat or short stay at a training center and then begin using the innovation regularly. In some instances, there are occasional followup conferences or meetings during the first year of use.

5. Sabbatical. An individual who will use the innovation takes an extended leave to spend time at a training center or with an institution already using the innovation. He then can return to his own institution as an advocate of the innovation and facilitate its use.

6. Super-Star Strategy. The user system imports one or more recognized experts as full-time members of the system. They may have been involved with the original development of the innovation, or may have gained knowledge and exposure from being with an established user system. They are expected to implant their skills and help the innovation become institutionalized, and, at the same time, bring national visibility to the user system.

7. Experimental Units. A small group of individuals from within the user system experiments with an innovation on a trial basis. If the innovation is successful, it is implemented user-system wide. If it fails, a much smaller percentage of resources are lost than would be lost in a blanket adoption.

8. Blanket Adoption. The innovation is adopted for everyone across the user system at the same time. The training individuals receive varies from none to extensive and prolonged.

9. Outside Collaboration. The user system links with an outside resource system for a long-term collaborative relationship. This process allows the user system access to the skills, expertise and other resources of the resource system and allows the resource system a field basis for evaluating and researching innovation development.

10. The Pennsylvania Contingent. A new group of people is added to the user system, through a change in administration (new superintendent or dean). The new person brings along several associates from his past who work together to bring about change.

11. Good-Time Workshops. This non-adoption strategy is extensively used in school systems where a set number of inservice days are scheduled. There is no real commitment to an innovation or its being adopted. Rather the goal is to entertain the teachers for the duration of the workshop and have them leaving reporting that it was fun.

If the CBTE program manager consciously plans for and carefully considers the advantages and disadvantages of the adoption strategy selected, he will be better able to handle problems and facilitate CBTE program development and adoption.

Summary

This brief survey of the various research and descriptive works that are underway in the UTR&D/CBAM Project are offered not as final solutions, but as some first attempts to provide program managers involved with the adoption of CBTE programs and other educational innovations with some hooks and handles to get a hold of in planning for and managing the innovation adoption process in educational institutions. Having a strong conceptual development and designing effective operational procedures are essential ingredients for a CBTE program.

However, these conceptual ingredients only provide the user system with the "box." Getting the box into use, that is adopting the innovation, is an equally complicated and essential process.

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